

COSCAP-SEA

**Aircraft Accident & Incident Investigation Authority Workshop
ICAO Asia and Pacific Regional Office, Bangkok, Thailand
18 – 21 February 2020**

Presentation on

Transport Safety Investigation Bureau

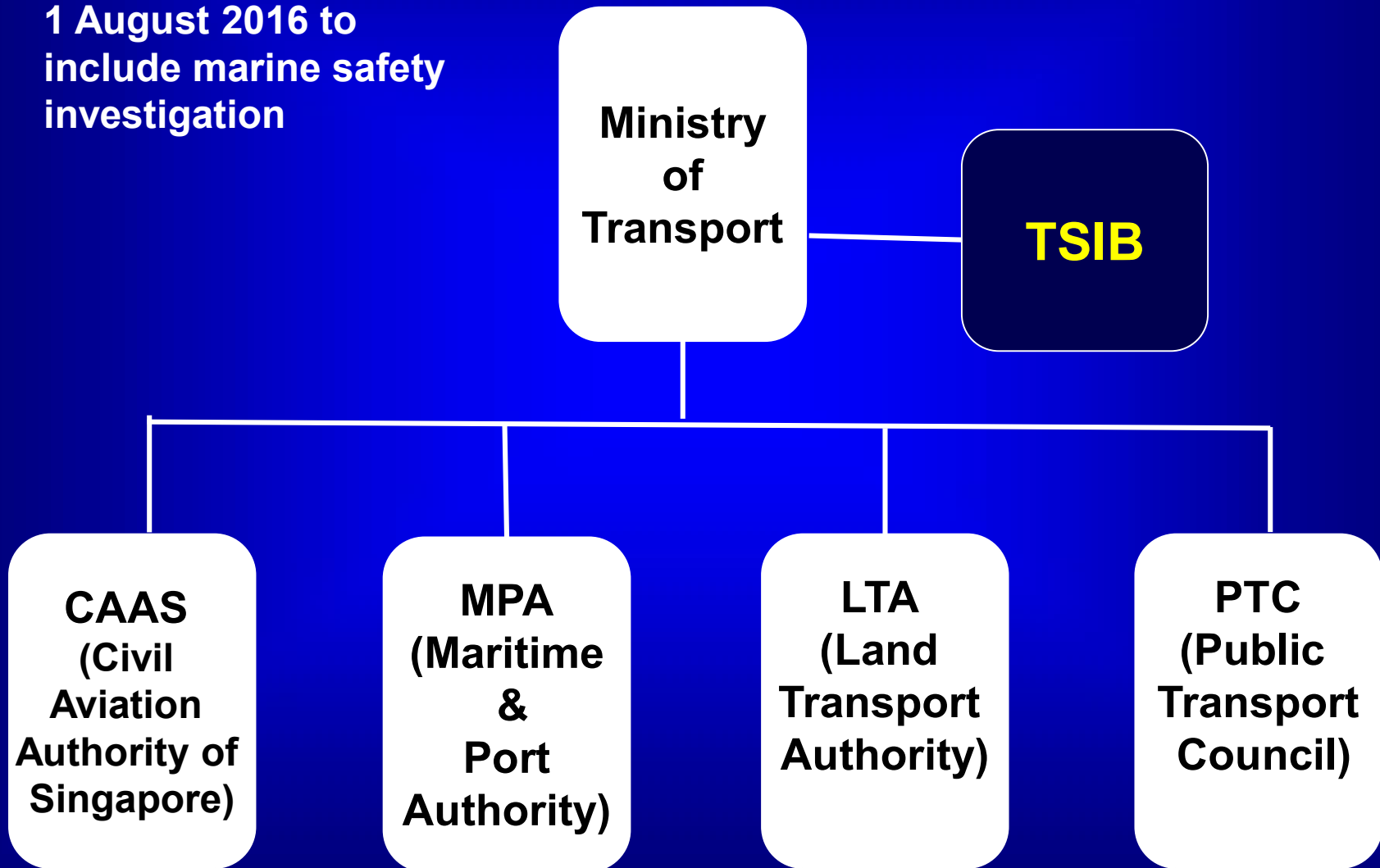
**Presented by
Chan Wing Keong
Transport Safety Investigation Bureau, Singapore**

Presentation Plan

- **TSIB set-up**
- **TSIB functions**
- **Equipment / Facilities**
- **Training**

TSIB Set-up

- A department of Ministry of Transport
- Started as AAIB on 1 October 2002
- Expanded to TSIB on 1 August 2016 to include marine safety investigation



TSIB Manpower

- **10 air safety investigators**
- **4 marine safety investigators**
- **2 rail safety investigators**
- **3 support staff**

Volunteer Air Safety Investigators

- **16 volunteers**
- **7 Air Force officers to assist in military aircraft accident/ incident investigation during civilian organised flying display**

Volunteer Marine Safety Investigators

- **6 volunteers**

Safety Investigation Legislation

- **Air Navigation Act**
- **Air Navigation (Investigation of Accidents and Incidents) Order**
- **Merchant Shipping Act**

Types of aviation occurrences that can be investigated

- **Civil aircraft in Singapore**
- **Singapore aircraft elsewhere**
- **Military aircraft during a flying display in Singapore at other than military premises**

Transport Safety Investigations (TSI) Act

- **An omnibus investigation legislation – Enacted on 3 September 2018.**
- **TSI Act covers safety investigation in the areas of aviation, marine, railway and buses.**
- **TSI Act will come into force at a date to be specified, pending development of subsidiary legislation.**

TSIB Functions

Key TSIB Functions

To improve transport safety by (list not exhaustive):

- Independently investigating occurrences**
- Reporting publicly on the investigations**
- Identifying factors that contribute, or have contributed, to the occurrences;**
- Communicating these factors to the industry and public**

These are NOT TSIB's Functions

- To apportion blame
- To provide the means to determine the liability of any person
- To assist in court proceedings or other proceedings between parties (except as provided by the TSI Act)

Day-to-day roles of TSIB – Aviation

PRIMARY - Fulfil Singapore's obligation under the Chicago Convention, in compliance with Annex 13 Standards & Recommended Practices, by investigating

- accidents
- serious incidents
- incidents (where safety lessons are expected)

Day-to-day roles of TSIB (Cont'd)

- **Monitor CAA Singapore and operators' investigation of significant incidents**
- **Update legislation, policies and procedures**
- **Develop resources and expertise**

Day-to-day roles of TSIB - Others

- **Coordinate with other local agencies**
- **Liaise with ICAO / other States / industry**
- **Maintain relevant statistics**
- **Advise Minister / Ministry**

Equipment / Facilities

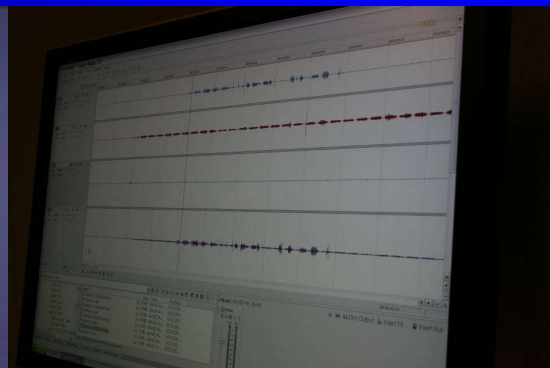
Investigation Go-kit



Work Bench



CVR/FDR Read-out Facility



Measuring Equipment



Recording Equipment



ULB Signal Detection Equipment

Remotely controlled aerial vehicle



3-D Laser Scanner



Training

Investigation Training

- **Basic investigation techniques course (e.g. at Singapore Aviation Academy (SAA))**
- **Investigation management training (SAA)**
- **In-house orientation / on-the-job training**

Investigation Training

- **Basic investigation techniques course (SAA)**
- **Investigation management (SAA)**
- **In-house orientation / on-the-job training**
- **Advanced / specialised areas (ATSB, NTSB, SCSi, USC, Cranfield)**
- **Handling the media / NOK**
- **State Safety Programme implementation**

Investigation Training (Cont'd)

- **Seminar / conference attendance**
- **Review of foreign investigation reports and safety information**
- **Crash exercises**
- **Investigation exercises**

Investigation Training (Cont'd)

- **Review of foreign investigation reports and safety information**
- **Crash exercises**
- **Investigation exercises**
- **Attachments to foreign investigations**
- **Fitness and survival training**

Thank You